Weitzer Woodsolutions

WOOD WORKS.



BUILD DIFFERENT.



Imagine if significant parts of your products were made of the lightweight material wood from Weitzer Woodsolutions in the future?

This would replace parts made of carbon, aluminum or steel with wood, the only renewable raw material, and make your product more sustainable.

Experience the future of lightweight construction with us. We at Weitzer Woodsolutions offers a compelling alternative to conventional materials. Whether in the mobility, rail or cross industry sector - our lightweight solutions not only reduce the carbon footprint of products, but also make them lighter.

Innovative technology

Our unique research approach sets new standards in lightweight construction. Computer-aided component simulations and modeling create precise digital twins of the process and component. This innovative method combines material and process simulation, optimizes production processes and ensures maximum use of resources.

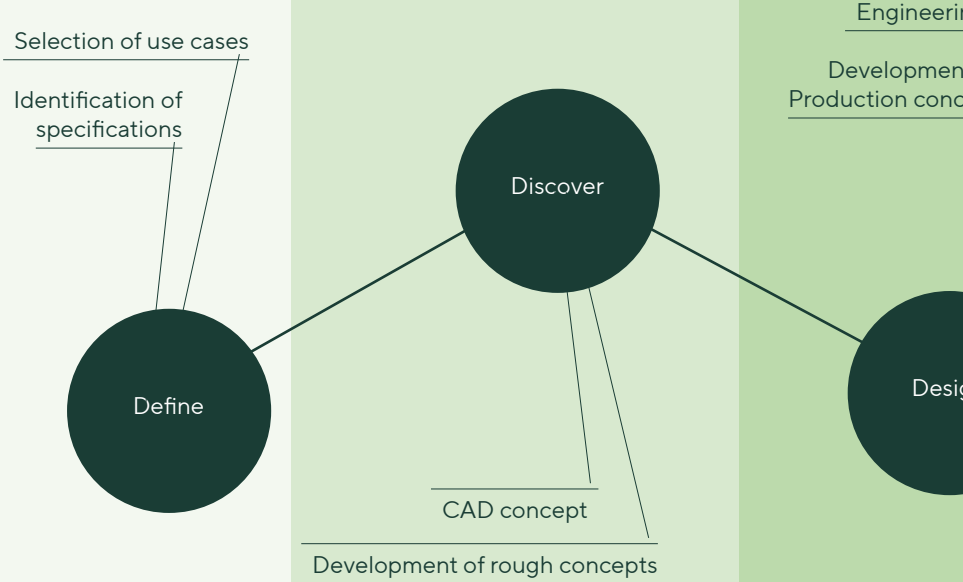




With Weitzer Wood-solutions you are optimally equipped for the challenges of tomorrow - efficient, sustainable and pioneering.
Wood is not only easy to work with, but also extremely versatile and durable. Opt for an innovative material with virtually no limits.

ENGINEERING

PROTOT



Defining requirements and framework conditions

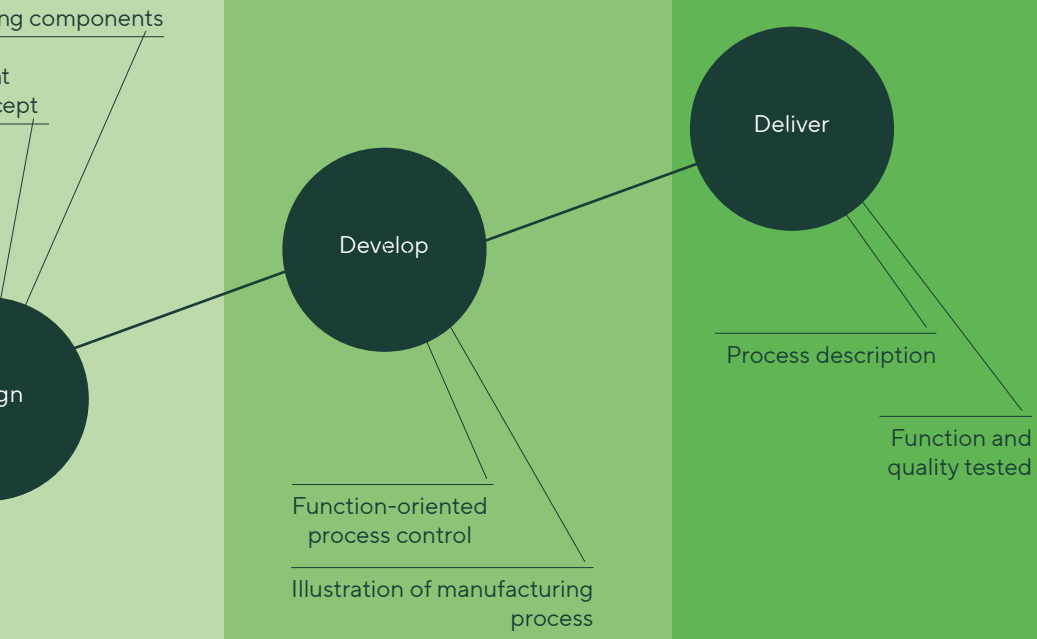
Exploring different approaches to solutions

Prototype a development series n

> “Our lightweight wooden components can easily replace carbon, aluminum, fiberglass, steel or plastic. If the expertise is in place.”
>
> Martin Karner, Weitzer Woodsolutions

TYPING

MANUFACTURING



and process
nent up to
naturity

Production process with continuous quality control

Delivery of the wood hybrid components


Weitzer
Woodsolutions

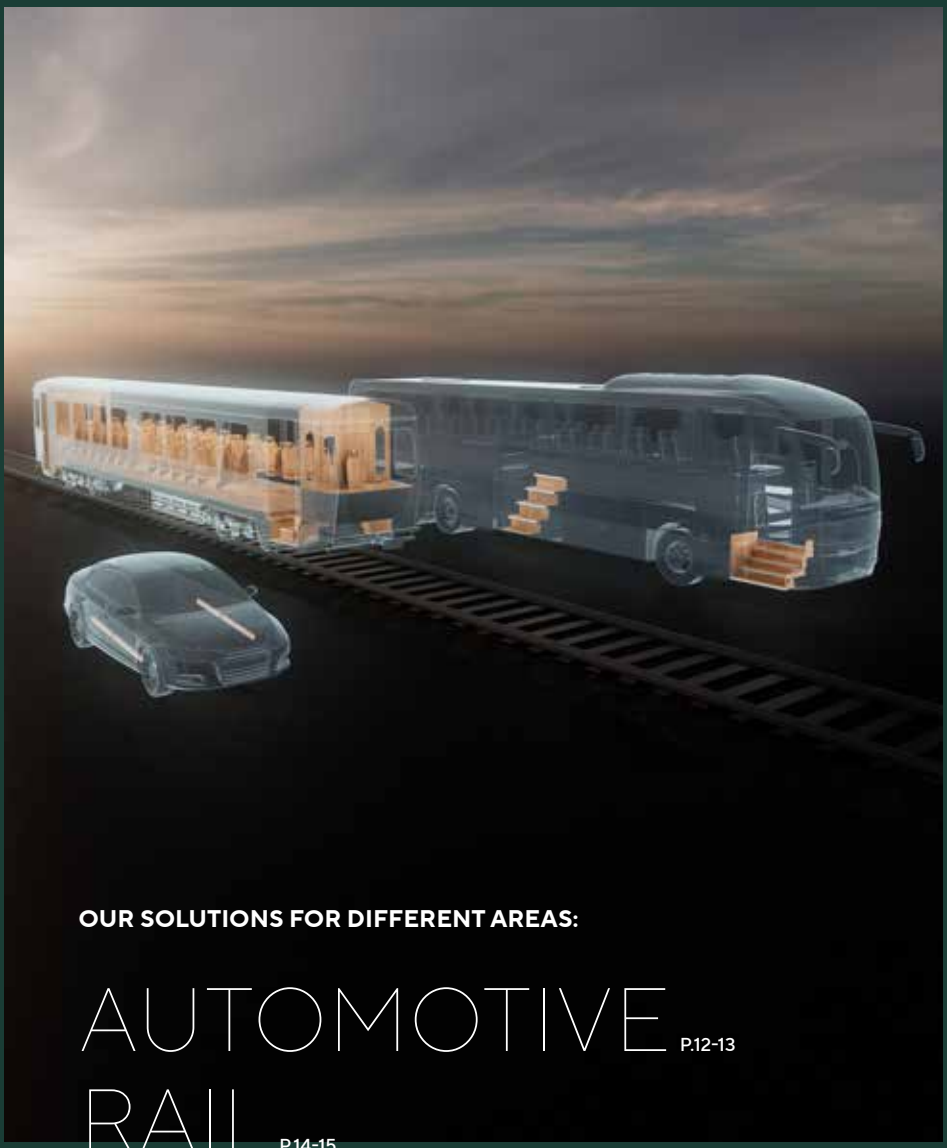
WELCOME TO THE WOOD AGE.



We bring wood back to where it used to be - only better.

Over 100 years ago, wooden components were ubiquitous. At that time, they were still made of solid wood. With the advent of plastics and the further development of industrial production, wood disappeared from railroads, cars and many other branches of industry. This stalled further material research into wood. We have now closed a research gap that had existed for more than 50 years.

We now know that wood hybrids and shaped wood from Weitzer Woodsolutions can revolutionize production.
After more than 10 years of research, wood is able to replace conventional materials such as carbon, steel and plastic in the rail, automotive and cross industry sectors.
Not as solid wood, as with our ancestors, but as a lighter and ecological alternative in the form of wood hybrids.



OUR SOLUTIONS FOR DIFFERENT AREAS:

AUTOMOTIVE P.12-13
RAIL P.14-15
CROSS INDUSTRY P.16-17



BEST PRACTICE

Porsche 914 electric

We made the front and rear bumper of an electrified Porsche 914 from Weitzer Holzhybrid.
Here, we proved our ability to produce precise, one-off components, in the number of pieces and in forming. But we won't leave it at that:
We are working with the big players of the OEMs on future, sustainable series components with crash-relevant designs.

Thanks to the innovative hybrid material design, we have achieved a considerable weight reduction and therefore greater efficiency and lower emissions. Our expertise in industrial processes and manufacturing methods in wood processing sets us apart.









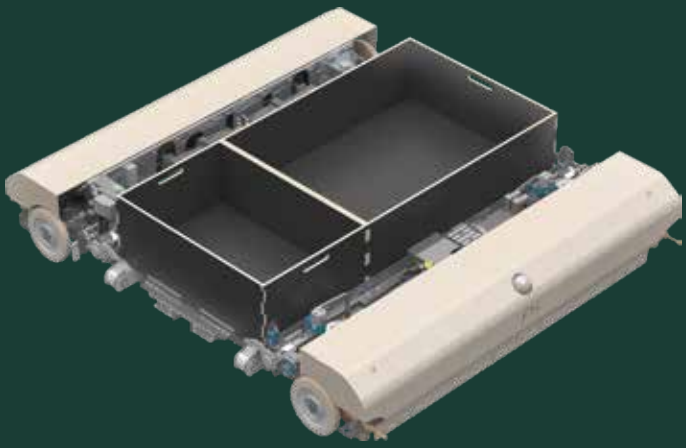


Safety and durability are top priorities in rail transportation. Our wood hybrids can withstand the heaviest loads, any climate zone and the highest fire protection requirements. They are also durable and designed for circularity. We thus offer cost-efficient and sustainable solutions for rail transportation and make wood an ideal material for the rail industry.

BEST PRACTICE

In the rail sector, we are working on solutions for load-bearing structures made of wood for entire train sets and can boast the following successes:

- Fire protection certificate Railway DIN EN 45545 R7 (HL2)
- Bombardment test railway (600J)
- Long-term behavior (“Wöhler curves”)
- Climate change test successfully completed
- Weitzer wood hybrids can be used in standard connection technologies
- Process reliability and process standardization
- 3D shaped parts can be produced reliably and reproducibly
- Competitive production costs in series production



BEST PRACTICE

Holz im Industrieanlagenbau

Für ein autonomes Shuttle-System entwickelten wir eine leichte und hochfeste Holz-Hybridstruktur als nachhaltige Alternative zu Metall- und Kunststoffbauteilen. Die Lösung bietet ausgezeichnete Schwingungsdämpfung, reduziert das Gesamtgewicht und ermöglicht die funktionale Integration von Antriebs-, Steuerungs- und Sicherheitselementen. Der erfolgreiche Einsatz im industriellen Umfeld bestätigt das große Potenzial von Holz für innovative Leichtbauanwendungen im Anlagenbau.



BEST PRACTICE

KEBA charging station cladding

With the design cover for KEBA, we created the perfect combination of innovation, sustainability and design. The customized solution made of fine wood protects the KEBA P30 Wallbox stylishly and reliably. Thanks to the high-quality lightweight wood construction, the cover is not only visually appealing, but also functional.

Whether birch, oak or larch - our customers choose from exquisite wood variants and thus make a statement for sustainability and design awareness. Weatherproof and robust, the cover blends harmoniously into any outdoor environment and defies even the most demanding weather conditions.

The Wallbox solution meets customer demands for protection, timelessly beautiful design and sustainability.

What can the wood hybrid do?

Our wood hybrids completely redefine the possible uses of wood - through dynamic loading and drastic weight reduction. In the mobility sector in particular, we have developed several pioneering products that impressively demonstrate the immense potential of wood-based materials to achieve climate targets.



> **“We dispel prejudices against wood! The wood we process does not burn, does not splinter and has no problem with water, but saves CO_2 and is lighter than steel components.”**

Wolfgang Knöbl, Weitzer Woodsolutions



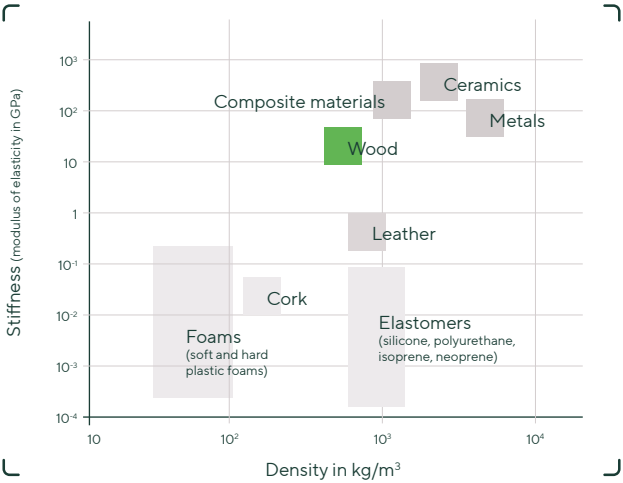
Your advantages with products from Weitzer Woodsolutions

Weight reduction:
A key to significantly reducing greenhouse gas emissions.

Efficient costs:
Constant focus on function-to-cost approach in the engineering process.

Sustainable use of raw materials
from the renewable raw material wood

Sustainable, resistant lightweight construction thanks to low density and high rigidity



Source: Weißbach, Dahms, Jaroschek (2018) Überlegung Materialausweis

Lightweight construction. Maximum performance:
Wood has a lower density than many traditional materials such as steel or aluminum. This leads to a significant reduction in the weight of the components. On average, our machined parts are lighter than the original material to be replaced. We achieve a weight reduction of around 20 % for plastic and 20-30 % for steel or aluminum. They serve as CO_2 storage and fulfill the required (crash) performance.

Strong yet lightweight:
Despite its low density, wood has very good mechanical properties, which can be further improved by hybrid constructions. Wood has a particularly high potential in terms of rigidity, which is comparable to that of steel or aluminum in relation to the weight of the material. It is even significantly higher than for plastics.

Flexible in form and function:
Wood is easy to work with and can be precisely shaped and customized.

Safety at the highest level:
Properly processed, wood meets high fire protection requirements and does not splinter. Wood hybrids can achieve Hazard Level 3 (HL3) in accordance with the EN 45545-2 standard. Wood hybrids therefore meet the strict requirements for smoke gas density and fire behavior.

Combining the strengths of different materials:
By combining wood with other materials such as steel and plastics, hybrid constructions are created that utilize the best properties of each material. These constructions are not only light and stable, but also energy-efficient and flexibly adaptable.

Wood therefore offers a sustainable and robust alternative for lightweight construction that is both ecologically and economically convincing.

Modern production concepts

Production in lightweight timber construction at Weitzer Woodsolutions is based on an innovative approach that combines digital process control and material simulation.



Process optimization:
The simulation of material and process steps identifies the optimum raw material and process parameters in order to guarantee the desired functions of the components.

Quality assurance:
The digital process control ensures economic efficiency, controllability and reproducibility of the processes. This enables the documentation, optimization and quality assurance of materials and processes.

Cost-conscious product development cycles:
The focus is already on product costs during the product development phase. This guarantees technically secure products for our customers' budgets.

CNC milling technology:
The use of CNC milling technology enables precise and efficient processing of wood-based materials, resulting in high dimensional accuracy and quality of the end products.

Veneer preparation:
The careful preparation and processing of veneers contributes to the aesthetic and functional quality of wood products.

Adhesive systems and coating technology:
Extensive knowledge of adhesive systems and coating techniques ensures durable, high-quality joints and surfaces that meet customers' specific requirements.

Pressing technology:
Modern pressing techniques ensure a uniform and stable connection of the materials in order to increase the structural integrity and durability of the components.

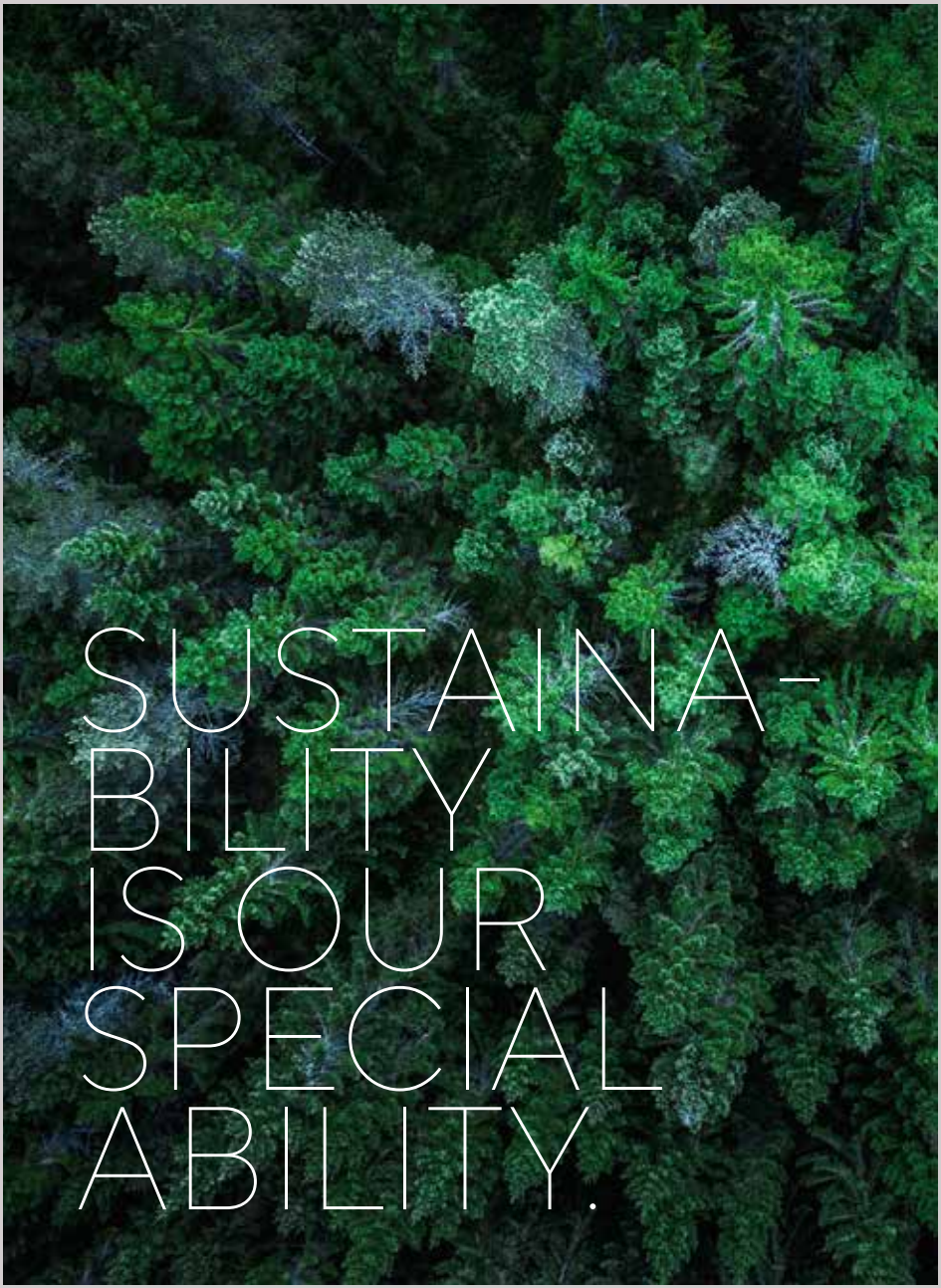


Wood is the raw material of the future - sustainable, robust and innovative.

At Weitzer Woodsolutions, we maximize the longevity of wood through responsible use and cutting-edge research. From sustainable, regional and seasonal timber harvesting to an environmentally friendly supply chain and thermal utilization - we use every piece of wood efficiently. Manufactured to ISO standards, our high-tech timber hybrids are not only cost-saving, but also durable, weatherproof and offer maximum fire protection.

Green Lifecycle

- 45 % less CO_2 consumption compared to carbon
- 25 % lighter than steel
- Regionally available in the DACH region and secured through sustainable forestry
- Short delivery routes, less dependence on the world market
- CO_2 storage as long as wood remains in use
- Ecological high-tech lightweight construction material of the future
- Enabling cascading use until new resources are regenerated


SUSTAINA–
BILITY
IS OUR
SPECIAL
ABILITY.



Rely on Weitzer Woodsolutions and experience how our innovative wood hybrids can make your products lighter, more sustainable and more cost-efficient.

Experience the technical and ecological benefits of tomorrow's materials – today.

Our experts are always available to help you develop and implement your projects. Contact us for customized solutions and innovative approaches with wood.

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